

REMARKS

This amendment is being filed along with a Request for Continued Examination (RCE) application in response to the final Office Action having a mailing date of September 30, 2005. Claims 1, 8, 16-17, 23, and 30 are amended as shown. New claims 33-37 are added. No new matter has been added. With this amendment, claims 1-37 are pending in the application.

The undersigned attorney would very much appreciate having a chance to further discuss the claim amendments and references with the Examiner via telephone, after the Examiner has had a chance to review this amendment. It is hoped that such a telephone conversation would allow the undersigned attorney to help facilitate examination of the claims and to further convey the distinctive features of the claims, before the Examiner substantively updates his prior art search and issues a new Office Action. It is further hoped that the telephone conversation would allow the applicants and the undersigned attorney to move the prosecution of the present application forward towards allowance in a positive and cooperative manner with the Examiner.

In the final Office Action, the Examiner rejected claims 16-32 under 35 U.S.C. § 103(a) as being unpatentable over Guetz (U.S. Patent No. 6,091,777) in view of Doty (U.S. Patent No. 6,795,863). For the reasons set forth below, the applicants respectfully disagree with these rejections and request that the pending claims be allowed.

I. Discussion of the applicants' disclosed embodiments

A disclosed embodiment will now be discussed in comparison to the applied references. Of course, the discussion of the disclosed embodiment, and the discussion of the differences between the disclosed embodiment and subject matter described in the applied references, do not define the scope or interpretation of any of the claims. Instead, such discussed differences are intended to merely help the Examiner appreciate important claim distinctions discussed thereafter.

As disclosed in the present application and discussed in prior responses to Office Action, various embodiments of the present invention allow multiple simultaneous output video streams to be provided to respective multiple client devices. The output video streams have

different characteristics (such as bit rate, encoding format, frame rate, resolution, etc.), such that server-side selection can be performed to select an optimum (or otherwise customized) output video stream to send to each client device. This customization of each output video stream accounts for the fact that the client devices may have different capabilities and to account for varying channel conditions. In at least one embodiment, the characteristics of the output video streams can change or otherwise adapt ("on the fly" during transmission) to dynamically changing client device characteristics and/or channel conditions.

As an example, the simultaneous output video streams can have different bit rates from one another, such that client devices with lesser bit rate capabilities receive the lower bit rate output video streams, while client devices with better bit rate capabilities receive the higher bit rate output video streams. Thus, at least some of the simultaneous output video streams have a bit rate that exceeds a bit rate capability of a least-capable client device.

There are other features of the disclosed embodiments. For example, the input video stream (from which the multiple simultaneous output video streams are derived) can be selected from a compressed digital format and an uncompressed format. If the input video stream is in the compressed digital format, an embodiment de-compresses the input video stream into a de-compressed format at the server, and then during the transcoding process at the server, re-compresses the input video stream into the simultaneous multiple output video streams.

In one example embodiment, the simultaneous output video streams have different encoding/compression formats from one another. For example, some output video streams may have an MPEG format, while other output video streams may have a non-MPEG format. *See, e.g.*, original claim 3.

II. Discussion of Guetz

Guetz has been extensively discussed in prior responses to Office Actions, and the applicants still believe that Guetz does not disclose, teach, or suggest the features provided by the present applicants' embodiments. Guetz provides a "layered" technique of transmitting video that is different than the "multiple output stream" techniques provided by the present applicants.

Specifically, Guetz discloses transmitting a single output video stream having multiple layers. In this “layered” approach, the client devices (rather than the server) determine which of the transmitted layers to select for presentation. That is, the client devices determine the level of visual image desired and select the layers to be utilized. *See, e.g.*, column 5, lines 64-66 of Guetz. Therefore, it is clear that the server of Guetz is not involved in the selection of the specific layers to be utilized at the client devices.

A feature of Guetz that has been extensively discussed by the present applicants is that Guetz provides a single output video stream having a bit rate that is commensurate with the least capable client. *See, e.g.*, column 6, lines 34-37 and the Abstract of Guetz. As defined in the 2005 version of the Merriam-Webster Online Dictionary, the term “commensurate” means “corresponding in size, extent, amount, or degree.” This “commensurate” feature of Guetz is indisputable and is a requirement of Guetz—the bit rate received by all client devices in Guetz is the same for all client devices and corresponds to the bit rate capability of the least capable client device.

The Examiner has admitted in the final Office Action that Guetz does not disclose the simultaneous transmission of output video streams. Guetz also does not disclose, teach, or suggest other features.

For example, Guetz does not provide simultaneous multiple output video streams having different encoding formats, including both MPEG and non-MPEG formats. Indeed, it appears that Guetz is completely silent as to the specific encoding format used by his output video stream. Moreover, it is not possible for Guetz to provide different encoding formats for simultaneous multiple output video streams, since Guetz does not provide simultaneous multiple output video streams to begin with.

As another example, Guetz does not receive an input video stream in a compressed digital format, de-compress that input video stream, and then re-compress the de-compressed video stream into the multiple simultaneous output video streams. Instead, Guetz receives an NTSC input, which is an analog signal (and not a digital signal, whether compressed or un-compressed). *See, e.g.*, Figure 1 and column 10, lines 45-46 of Guetz.

III. Discussion of Doty

To supply the missing teachings of Guetz, specifically the feature of simultaneous output video streams having different bit rates that correspond to both multiple different client device capabilities and channel conditions, the Examiner has cited Doty. Doty involves a system to send emails to client devices, with the email having an embedded video screen for viewing streaming video. *See, e.g.*, the Abstract of Doty. However, Doty fails to cure the deficiencies of Guetz based on a number of reasons, some of which are discussed below.

First, Doty does not qualify as prior art in the manner used by the Examiner. That is, Doty's earliest filing date is based on the August 10, 1999 filing date of its parent provisional application (U.S. Provisional Application Serial No. 60/147,815). The undersigned attorney has thoroughly reviewed a copy of this provisional application, and cannot find anything disclosed therein that involves different bit rates that correspond to both multiple different client device capabilities and channel conditions.

Accordingly, the earliest date of Doty that can be relied upon by the Examiner as disclosing this feature is August 10, 2000, which is the filing date of Doty's issued patent. Because this August 10, 2000 filing date is subsequent to the February 10, 2000 filing date of the preset application (and also subsequent to the original priority provisional filing date of the present application), Doty does not qualify as prior art.

Second, Doty (the issued patent, whether or not qualifying as prior art) does not appear to disclose, teach, or suggest different bit rates that correspond to both client device capabilities and channel conditions. Rather, the bit rates of Doty are based solely on client device characteristics. *See, e.g.*, column 8, lines 45-58 of Doty.

Third, while it appears that Doty uses server-side determination of which output video stream to send to each client device, Doty does not derive such output video streams from a digital (whether compressed or un-compressed) input stream. Rather, Doty's input signal is an analog signal. *See, e.g.*, items 12 and 26 in Figure 1 of Doty. Hence, Doty cannot and does not perform the de-compression and re-compression as discussed above with respect to the present applicants' embodiments.

Fourth, Doty does not perform changes in the frame rate, bit rate, resolution, spatial bandwidth, color depth, and the like during transmission and in response to changes in either or both channel conditions or client device characteristics. Clearly, Doty does not take channel conditions into account. Furthermore, Doty clearly does not provide any mechanism for adjusting or otherwise changing characteristics of his video streams during transmission in order to take into account changes at the client device and/or channel conditions. It is easy to see why Doty does not update his video streams—Doty provides a video screen that is embedded in an email. If the resolution of the video stream is to be changed during transmission, then a new email having an appropriate different video screen has to be sent—the client devices of Doty would therefore be flooded with irritating new emails with embedded video screens each time the resolution or other characteristic of the video stream has to be changed.

IV. Discussion of Liu

Liu (U.S. Patent No. 5,970,233) was cited by the same Examiner in another co-pending application (U.S. Patent Application Serial No. 09/502,409) owned by the same assignee as the present application. Specifically, Liu was combined with Guetz and was cited for allegedly disclosing multiple simultaneous output video streams having different formats. However, it is believed that Liu (like Doty) fails to cure the deficiencies of Guetz.

First, the output video data of Liu does not have different encoding formats including both MPEG and non-MPEG formats. Rather, Liu simply discusses color encoding (such as YUV or RGB color encoding), and makes no mention whatsoever as to whether his output video data having this color encoding is in MPEG format and/or non-MPEG format, and whether his format of the output video data is compressed or un-compressed.

Second, Liu is completely silent as to whether his input video stream is compressed or un-compressed. Hence, Liu does not disclose, teach, or suggest the de-compression and re-compression as discussed above with respect to the present applicants' embodiments.

Third, it is unclear from Liu whether it is server-side or client-side determination of which output video data to send to each recipient PC 330 and PC 310. Indeed, it appears that

Liu does not even involve a server-client architecture, since his Figure 3 shows the PCs 310 and 330 connected to a PC 320 via bus lines 311 and 331. At most, Liu might be considered as providing server-side determination, if the PC 320 is construed as a “server”—but Liu does not appear to disclose, teach, or suggest that this PC 320 makes any sort of determination or selection. Rather, its inputs are hard wired into and hard wired out of the respective encoders/decoders—thus, no selection or determination need be performed. *See, e.g.*, Figure 4 of Liu.

V. Reasons why Doty and/or Liu cannot be combined with Guetz

Doty cannot be combined with Guetz because of at least the following reasons and as discussed above:

A. Doty, if hypothetically combined with Guetz, will be forced to provide all of his output video streams with the same bit rate, commensurate with the least capable client. The same bit rate commensurate with the least capable client is a requirement of Guetz, and therefore, any reference combined with Guetz will need to accommodate this requirement. As explained above and in contrast, the present applicants’ disclosed embodiments provide different bit rates, including bit rates that exceed the bit rate capability of the least capable client device.

B. Doty uses server-side determination of which output video streams to send to the client device. In contrast, Guetz uses client-side determination of which layers to select. Hence, a person skilled in the art would not look to the server-side solution of Doty to cure the deficiencies of Guetz client-side solution.

C. Doty does not provide the capability to select output video streams based on channel conditions, and further does not provide the capability to dynamically change/update the output video streams based on client device characteristics and channel conditions that both change during transmission. Guetz provides some capability to do this. However, combining Doty with Guetz will force Doty to update his output video streams, and as explained above, force Doty to send out multiple emails with different video screens each time the video stream is to be updated. This is an impractical modification of Doty and is clearly not suggested in Doty

because his client devices will receive multiple annoying emails each time the video stream needs to be updated.

Liu cannot be combined with Guetz because of at least the following reasons and as discussed above:

A. Liu, if hypothetically combined with Guetz, will be forced like Doty to provide all of his output video streams with the same bit rate, commensurate with the least capable client. The same bit rate commensurate with the least capable client is a requirement of Guetz, and therefore, any reference combined with Guetz will need to accommodate this requirement. As explained above and in contrast, the present applicants' disclosed embodiments provide different bit rates, including bit rates that exceed the bit rate capability of the least capable client device.

B. Both Liu and Guetz, even if hypothetically combined, do not provide compressed input video, de-compress that input video, and then re-compress to provide the output video streams. Furthermore, both Liu and Guetz do not disclose, teach, or suggest that their output video streams have different encoding formats, including both MPEG and non-MPEG formats.

C. As explained above, Liu does not disclose a client-server architecture. Even if the PC 320 is construed to be a "server," the PC 320 does not make any determination or selection of which output stream to send to a particular recipient. Furthermore, a person skilled in the art would not look to the quasi-server solution of Liu to cure the deficiencies of the client-side solution proposed by Guetz.

VI. Discussion of the claims

Independent claims 16 currently recites "server-side code to select simultaneous output video streams having the different bit rates that correspond to both multiple different client device capabilities and channel conditions." It is believed that this recitation already distinguishes over both Guetz and the non-prior art Doty (if assumed to be prior art), as well as distinguishing over Liu, whether singly or in combination.

For example, Guetz does not provide the recited server-side code, since he provides client-side selection--as explained above, the server-side solution of Doty cannot be used to cure the client-side solution of Guetz.

Next, the simultaneous output video streams with different bit rates are not provided by Guetz, and the output video streams of Doty (if assumed to be prior art) only correspond to client device capabilities and not to channel conditions. Moreover and as explained above, if Doty is combined with Guetz, Doty (as well as Liu) will be forced to provide a single/same bit rate for his output video, with that bit rate being commensurate with the least capable client device. Thus, the “different bit rates” limitation of claim 16 is not met.

Nevertheless, to facilitate prosecution, claim 16 is amended as shown to recite the feature of --at least some of the simultaneous output video streams having a bit rate that exceeds a bit rate capability of a least-capable client device--. This feature clearly distinguishes over Guetz, and would distinguish over Guetz combined with Doty (or Liu) since these other references would be forced to adopt the single bit rate commensurate with the least capable client device that is required by Guetz. Accordingly, claim 16 is now further allowable over the cited references.

Independent claim 23 currently recites “server selection of simultaneous output video streams having the different bit rates that correspond to both multiple different client device capabilities and channel conditions.” As explained above, these features are not disclosed by Guetz or the non-prior art Doty (and/or Liu), whether singly or in combination. Accordingly, claim 23 is believed to be presently allowable.

However, to also facilitate prosecution, claim 23 is amended to recite --at least some of the simultaneous output video streams having a bit rate that exceeds a bit rate capability of a least-capable client device--. Since this feature is clearly not disclosed, taught, or suggested by Guetz and/or by the other references when combined with Guetz, claim 23 is further allowable.

Claim 23 is further amended to recite --multiple different-- encoding formats respectively for the output video streams. These features are clearly not disclosed, taught, or suggested by Guetz.

Certain dependent claims will be discussed next. These dependent claims recite subject matter that distinguishes over the cited references, whether singly or in combination.

Dependent claim 17 is amended to recite --changes to the spatial bandwidth of the simultaneous output video streams during transmission--. Doty and Liu do not change spatial bandwidth during transmission. Guetz does not provide the recited simultaneous output video streams. Accordingly, claim 17 is allowable.

Dependent claim 30 recites updating characteristics of the simultaneous output video streams, in response to changes in either or both channel conditions or client device characteristics during transmission. Again, Guetz does not provide the recited simultaneous output video streams, and Doty/Liu do not perform the recited updating. Hence, claim 30 is allowable.

New dependent claims 33 and 35 recite that the input video stream is in a compressed digital format. In contrast, Guetz and Doty provide an analog input, as explained above, and therefore their input video is not compressed and is not digital. Liu is completely silent as to whether his input video is compressed or un-compressed. Claims 33 and 35 are thus allowable.

New dependent claims 34 and 36 recite server features involving de-compressing the input video stream having the compressed digital format, and re-compressing into the multiple simultaneous output video streams. None of the cited references, whether singly or in combination, disclose, teach, or suggest the recited de-compressing/re-compressing, as well as the other features recited in claims 34 and 36 pertaining to the input video stream having the compressed digital format and the simultaneous output video streams. Accordingly, claims 34 and 36 are allowable.

New dependent claim 37 recites that the “simultaneous output video streams have different encoding formats including both an MPEG compression format and a non-MPEG format.” Guetz does not provide this feature, and as explained above, Liu only addresses color encoding and makes no mention of MPEG/non-MPEG as well as compressing/non-compressing. Therefore, claim 37 is allowable.

VII. Rejoinder of withdrawn claims

Claims 1-15 are currently withdrawn pursuant to a Restriction Requirement made final in the Office Action of November 3, 2003. In that Office Action, the Examiner indicated that he could determine/consider whether claim 16 is generic or not over the non-elected claims, if and when claim 16 becomes allowable.

With the amendment introduced to claim 16 discussed above, it is believed that claim 16 is thus now in condition for allowance and that the generic nature of claim 16 was not changed due to the introduced amendment. Withdrawn independent claims 1 and 8 are amended herein to include recitations generally along the lines of some of the recitations contained in amended claim 16.

Claim 16 is clearly generic over claims 1 and 8, since claim 16 recites code to “derive requirements for the output video streams” and code to “change characteristics of the frames,” whereas claims 1 and 8 contain more specific recitations. Accordingly, the applicants request the rejoicing and allowance of withdrawn claims 1-15.

VIII. Conclusion

Overall, none of the references singly or in any motivated combination disclose, teach, or suggest what is recited in the independent claims. Thus, given the above amendments and accompanying remarks, the independent claims are now in condition for allowance. The dependent claims that depend directly or indirectly on these independent claims are likewise allowable based on at least the same reasons and based on the recitations contained in each dependent claim.

If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to the allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 622-4900.

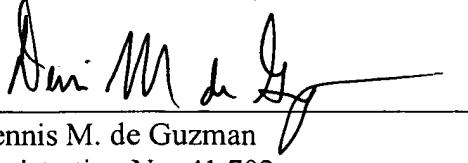
The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Application No. 09/502,390
Reply to Office Action dated September 30, 2005

All of the claims remaining in the application are now clearly allowable.
Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

SEED Intellectual Property Law Group PLLC



Dennis M. de Guzman
Registration No. 41,702

DMD:wt

Enclosure:
Postcard

701 Fifth Avenue, Suite 6300
Seattle, Washington 98104-7092
Phone: (206) 622-4900
Fax: (206) 682-6031

720747_1.DOC